

# THE DEPARTMENT OF THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES

(We may not all agree with Dean R. A. Lyman's views on "The Three Year Course in Pharmacy," but we must admit that he is hitting at the weak spot in pharmaceutical education. Vocational training is bound to narrow our views of the general field of any subject, and it is to be hoped that our Three Year Courses will be less vocational and thus enlarge our field of vision.—C. B. Jordan, EDITOR.)

## THE THREE-YEAR COURSE IN PHARMACY.

BY RUFUS A. LYMAN.

During the spring months, there have come to my desk a number of special announcements setting forth the program of the minimum three-year course as planned in various Conference schools. When an institution takes the trouble to get out a special bulletin descriptive of a new program one rather expects to find something unusual, which would call forth such an effort. With this in mind, a study of these announcements is disappointing. In some cases the new three-year course is the old two-year course sprawled out. Occasionally a new course seems to be added to the curriculum. A closer analysis is apt to reveal the fact that the new courses are the old ones subdivided. When new ones have actually been added they smack of the trend of the times—a trend which the pharmacist alone is not guilty of following, namely—the filling of the curriculum with courses which seem "practical." A "practical" course may be defined as one which represents the application of learning but which does not constitute learning itself. On the other hand the study of some of the catalogs of recent date are more refreshing. In the development of the three-year course some men have sensed the weak points in the present day pharmaceutical training, namely, its extreme materialism, its so-called "practical" nature; its ever-narrowing tendency; its emphasis on non-essentials; its emphasis upon a training which is intended to satisfy only the needs of to-day; its failure to train so as to meet the needs of to-morrow; in a word—its lack of vision.

In the May number of the *Atlantic Monthly* is an article by John Hayes Taylor, which is deserving of the attention of every individual who sets himself up as a teacher. In the following sentences he shows the weak points in our educational efforts.

"How far the schools of the country are contributing to the apparently growing materialism and to the certainly growing crudity of life it must be difficult to say. Perhaps they are only exponential of it, a result more than a cause. In that case we are only going in a circle, undoubtedly vicious. Certainly the schools are catering to this instead of opposing it. The great accusation against them is that they are so largely substituting a lower motive in education for a higher one. One hears 'practical' spoken much oftener—certainly much louder—than one ever hears 'scholarship' or 'truth' or 'wisdom'. As for 'culture' one grows shy and hesitant over saying it at all. Steadily and firmly other motives are taken away from the student until often nothing higher is left to him than the necessity of making a living. Apparently he is to live only to come out even with himself at the end. 'The teacher and mother should confer together (sic),' I heard a lecturer on vocational guidance say, speaking of the child in the fifth

grade or thereabout, 'after all the tests have been made, and decide upon what is necessary to prepare the child for his vocation.' It sounds unbelievable. What has become of the 'complete and generous education?' And what about fitting a man to perform 'justly, skillfully, and magnanimously all the offices, both private and public, of peace and war?'

"There is no reason why the learning or partial learning of a trade or profession should not be combined with stages of education. The harm is done when learning a trade is called education and when the whole motive of education is reduced to the utilitarian one. This is so evident that it seems trite to say it; and yet the condition goes on. The whole scale of acquisition is lowered. The result of the application of the practical motive is that the proportion of values in subjects and in training is lost. Students and instructors alike seem to lose it. Applied science is placed on the same level with pure science—if not higher. Pupils are taught little difference in final value between cooking and chemistry, between collecting items of school news and that study of great literature, between bookkeeping and higher algebra, between carpentering up a bookrack and learning the principles of physics. If there is any superiority it is on the side of the deduced thing, not on that of the fundamental principle. In fact it is generally true, I think, that while instruction in science may be very modest and matter-of-fact, instruction in applied science or anything industrial is almost blatant in its assertion of importance, when once it gets its toe into a curriculum. The essential value of the general over the particular, of truth over fact, of principle over skill, is not thus learned. No scale of values—or none that recognizes the greatness of ideas and the domination of law—is established. The first great chance of the pupil is lost. He doesn't learn the difference between the little and the great."

We cannot expect the student to grasp the difference between the little and the great, the non-essential and the essential, when we as teachers do not grasp it. Not only are these facts evidenced by our curricula; they are reflected in our pharmaceutical literature—from our textbooks of pharmacy to the pharmacopœia itself. In our rage for the "practical," and in our desire to eliminate from our curricula everything except what the "poor boy will use in a drug store," we have reduced our courses to next to nothing and our profession below the horse doctor rank.

Once in my younger days, I recall a suggestion was made in the Conference that we specify some qualifications for teachers of pharmacy. The suggestion called forth a flow of wit and sarcasm from a prominent Dean of Pharmacy, who has since passed away. He raised the question as to who had the right to say that he was or was not qualified to be a teacher of pharmacy. The suggestion was considered a huge joke and the incident ended in a fiasco. One thing is certain—the teachers of that day did not produce a group of far-thinking men of to-day. They may have produced a group of detail or routine workers but they certainly did not produce a group of thoughtful educated leaders who were able to place pharmacy on a plane comparable to that of the other professions. Neither did they give pharmacy scientific standing or respect in community life. Every executive knows how difficult it is to-day to go into the man market and obtain a man "trained in pharmacy" who can come into a university community and place pharmacy upon a par with the other professional subjects. And fewer still are there who can meet the supreme test—namely, obtain for pharmacy a just and dignified share of the funds set aside by the state or other donor for the purpose of education.

There has just been broadcasted the results of the research census authorized by the National Council on Pharmaceutical Research. No one who understands the field of operation of pharmacy has ever questioned whether there was a field for pharmaceutical research. The field is unlimited. The question has been

are there any men "pharmaceutically trained" who are trained in such a way that the results they obtain will stand the critical tests of modern scientific investigators. The Chairman of the Research Committee of the Association calls attention to the fact "that pharmaceutical research is an attractive field is shown by the great work being done by nonpharmacists in the preparation of medicinal chemicals." It is a sad state of affairs when one of the most important phases of pharmaceutical research is being accomplished by men not pharmaceutically trained. It must continue to be so until we build our curricula so that students are trained in the basic things. Again the Chairman calls attention to the "statistical research now being performed by the Commonwealth Foundation." But again it is significant that the moving spirit of that study is not pharmaceutical. When one reviews the whole field of pharmaceutical activity one certainly has the feeling that something must be the matter either with the teachers of pharmacy or with pharmacy itself. To have the former proven true would be humiliating but to have the latter proven true would eliminate pharmacy from the field of science and professionalism.

It is impossible to produce a high class professional man to-day without the proper "background" training. This was recognized a long time ago by medical men. It has more recently been recognized by dental educators. It is now universally recognized by farmers and business men. It has not yet been universally recognized by pharmacists—at least it is not reflected universally in the published programs for the three-year course.

In pharmacy only do so-called educators still look to the state boards for ideals. As long as leadership in education is limited to state board standards, pharmacy will continue to be the cow's tail of the professions. High school students even are beginning to recognize the value of fundamental training preparatory to the training they are to get in life's school. Last week I gave a high school commencement address in a typical western Nebraska village. The village school district had been recently enlarged to include forty sections of the countryside. Six automobile busses were used to carry the children to the school. The graduating class consisted of five boys and twelve girls, every one of them from the country. As is usual on such occasions a pastor was asked to give the invocation and the benediction. When this minister was introduced to me he informed me that he was the pastor of a country church some six miles distant. He was a young man very dignified in demeanor and he spoke perfect English. When opportunity offered I inquired of the superintendent why the local pastor had not been used on the program. He informed me that he had been asked to but had become offended because the graduating class refused to have him for the baccalaureate address since he spoke such poor English. Because of this rebuff he had refused a place on the commencement program. Even twelfth graders in the country may be humiliated by a "professional" man who has not proper background training. After the commencement program was over I heard that the local pastor had been appeased by the Board of Education. They employed him to drive me twenty miles across country to the main line of the Burlington in order that I might be in my classroom the next morning. I must confess that in spite of his terrible English he drove an automobile very well. But I would much prefer to have him drive me in an automobile than to minister to my soul. I have not

been able to convince one of my colleagues that a certain druggist in Lincoln is a very careful compounder. This druggist was once a student in my colleague's Greek class and he insists that because this pharmacist was reckless in his translation of the Greek language he must also be reckless in the compounding of a prescription.

This morning I attempted to show my twenty-year old daughter the technique of a dance step that I thought I understood. After watching my performance for a moment she laconically remarked, "Daddy, what you need is some general training along the lines of being graceful." In a word, that intelligent young lady summed up the reasons why I can never become a dancer. The trouble is with my background training. That is just where the pharmaceutical training of to-day fails. We are trying to produce experts that have not had the "background" training.

The men who build our pharmaceutical curricula seem just now to be resting upon their oars awaiting the publication of the study of pharmacy being conducted by the Commonwealth Foundation. This is unfortunate. The Commonwealth study will undoubtedly be of great value but the keynote of that study is to determine what a pharmacist needs to know to-day to give an intelligent pharmaceutical service. That of course will be a great step in advance for the service which is actually being rendered to-day by the average so-called commercial pharmacist is extremely unintelligent. The Commonwealth study is not going to tell us what a pharmacist will have to know to give an intelligent pharmaceutical service two or three decades in the future. The pharmacist must not only be trained so that he can render an intelligent pharmaceutical service to-day but he must be so trained that he can later train himself to practice pharmacy as it must be practiced in the future. No one can tell what that will be. It will be determined, in the first place, in part, by the development in those sciences such as medicine, veterinary science, agriculture, horticulture and those industries which are intimately related to pharmacy. In the second place it will be determined to a very large degree by the capacity of the students entering now or about to enter our colleges. In the third place the future of pharmacy will be shaped by the vision these students are given by teachers in the colleges. If that vision is mainly "to get by the board," pharmacy will not progress. I know of a number of schools where that is the vision given the student. Ex-President James of the University of Illinois once stated the truth in an interesting way when he said, "The vision of the average teacher of pharmacy is bounded by the four walls and the ceiling of a drug store." He said nothing about the floor. I took it for granted that he thought the vision would not escape by way of the basement. And lastly the future of pharmacy will be determined by the training these men are given in our schools. The only hope for growth is that we insist upon a broad fundamental training that gives a man a background that will enable him to adapt himself and his service to the ever-changing conditions of complex modern life. This must be our one thought in the lengthening of the pharmaceutical curriculum.

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PROGRAM OF NATIONAL ASSOCIATION BOARDS OF PHARMACY, FORT  
DES MOINES HOTEL.

First Session, Monday, August 24, 1925, 9.00 A.M.

1. Call to order—President H. Lionel Meredith
2. Calling roll of Member States
3. Appointment of Committee on Credentials—President Meredith
4. President's Address—H. Lionel Meredith
5. Appointment of Committee on President's Address
6. Report of Executive Committee—L. L. Walton, Chairman
7. Report of Secretary—H. C. Christensen
8. Report of Treasurer—J. W. Gayle.

Second Session, Monday, 2.00 P.M.

1. Report of Legislative Committee—John Culley, Chairman
2. Report of Committee on Credentials
3. Appointment of Nominating Committee
4. Report of Advisory Examination Committee—H. C. Christensen, Chairman
5. Report of Syllabus Committee
6. Report of Committee on Federal Legislation—W. T. Kerfoot, Jr., Chairman
7. Verbal Report of Vice-Presidents:—

District No. 1—H. M. Lerou	District No. 5—W. J. Cox
2—A. C. Taylor	6—Tom Hadley
3—O. J. S. Boberg	7—W. M. Hankins
4—W. W. Haire	8—Chas. J. Clayton
District No. 9—A. G. Hulett	

Third Session, Tuesday August 25, 1925, 9.00 A.M.

JOINT MEETING OF THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY AND THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES.

Report on Progress of Pharmacy Survey—Dr. W. W. Charters.

“Readjustments incident to changing from the two-year course to the three-year course.”

Frederick J. Wulling, E. R. Serles, H. M. Faser, Robert P. Fischelis.

“How much practical experience shall be required in addition to three years in college?”

H. C. Washburn, W. F. Rudd, Clair A. Dye, John Culley, H. L. Haussamen.

Speakers will be supplied by the National Association of Boards of Pharmacy.

Fourth Session, Tuesday, 2.00 P.M.

1. Report of Committee on President's Address
2. Report of Standing Committees
  - Advisory Publicity Committee—A. L. I. Winne, Chairman
  - N. A. B. P. Committee on Educational Standards—W. D. Jones, Chairman
  - Committee on Constitution and By-Laws—W. H. Hankins, Chairman
  - Committee on Relations of Boards with Colleges—E. V. Zoeller, Chairman
  - Committee on Standards and Requirements for Classification of Colleges of Pharmacy—H. Lionel Meredith, Chairman
  - Committee on National Certificate—H. C. Christensen, Chairman
  - Committee on Registration and Reciprocity for Assistants—R. L. Swain, Chairman
  - Committee on Ownership of Drug Stores—Edw. H. Bloomfield, Chairman.
3. Report of Special Committees
4. Unfinished Business
5. New Business
6. Report of Nominating Committee
7. Election and Installation of Officers.

## PLANT SCIENCE LABORATORY SEMINAR AT UNIVERSITY OF MINNESOTA.

Plant Science workers of the U. S. are cordially invited to attend one or all of the sessions to be held by research workers in Pharmacognosy, Pharmaceutical Chemistry and Botany at the College of Pharmacy, University of Minnesota, the week of August 17, 1925.

An opportunity for close and extended conferences between those who are primarily interested in vegetable drugs has been created through the organization of the Plant Science Laboratory Seminar, the first session of which was held at the University of Minnesota during August, 1923; the second session was held at the University of Buffalo, College of Pharmacy in 1924, and the third session will be held at the University of Minnesota, College of Pharmacy, during the week of August 17, 1925.

Pharmacognosists, plant chemists, botanists and others interested in medicinal plants, vegetable drugs and food products have a great opportunity for promoting their work through this Seminar. Over forty of the leading workers in these fields have taken part in previous meetings. The value and the success of the conferences is demonstrated by the fact that at each succeeding meeting practically all of those who attended previous meetings were on hand and took part in the work. The programs consist primarily of demonstration of research methods for determining the quality and purity of vegetable drugs and of discussions on research, analytical and teaching methods and standards. Many retail pharmacists have found the meetings of interest and of value and have attended. Up-to-date information, not readily available in current literature, is secured by these pharmacists which they in turn make immediate use of in the conduct of their professional practice.

The purpose of the Seminar is that each worker shall have the opportunity to pursue investigations in his particular field, to demonstrate his work and methods and to discuss the results with other workers. The entire facilities of the College of Pharmacy of the University of Minnesota and of allied departments will again be placed at the disposal of those who may wish to take part in the 1925 Seminar. Extensive field work as well as laboratory work is planned.

This advance announcement is for the purpose of informing all of the nature of the work which has been done in the past and to specifically invite all who will attend the 1925 meeting to immediately advise Dr. E. L. Newcomb, Editor of the *Northwestern Druggist*, who also serves as chairman of the Seminar, of their intention to attend and of the particular subject which they will discuss or upon which they will work during the week of the conference. A further announcement giving the details of the 1925 meeting will be issued about August 1st.

No better idea can be given to illustrate the nature of these most interesting meetings than to give a brief abstract of the two-day meeting held in Buffalo last August. This meeting was attended by representatives from the leading colleges of pharmacy and manufacturing houses of the country also by delegates from the United States Bureau of Chemistry.

Chairman Newcomb in opening the meeting briefly reviewed the work of the Seminar and called particular attention to the complete report of its activities as published in the *American Journal of Pharmacy*, Vol. 96, p. 80-114, 194-225. Secretary Viehoever reviewed the program for the meeting and Dr. H. W. Youngken presented a report for the committee on Botany and Pharmacognosy of the National Research Council, which committee is composed of five pharmacists. Secretary Viehoever outlined the work being done by the National Conference on Pharmaceutical Research and emphasized the opportunity for coöperative work on the part of the Seminar.

Professor E. N. Gathercoal and Professor C. J. Zufall accepted the problem of an extensive survey on the distribution and available supplies of Rhamnus Purshiana. Professor Youngken and Professor Zufall took up the question of the supplies of American Aspidium or Male Fern and agreed to carry on a survey on the available supplies of this plant in this country.

The question of quantitative microscopic analysis was discussed and a special committee appointed to carry on referee work on this subject during the year. The differences of opinion on the therapeutic value of red and white Squill were discussed by Dr. Munch of the Bureau of Chemistry and arrangements made for the exchange of material which it is hoped may lead to the ultimate settlement of this question. Dr. Viehoever presented the results of some new studies on Digitalis with particular reference to the seed of the plant. Professor Gathercoal presented a summary of the work which had been done looking toward the establishment of definite color

standards for the U. S. P. and N. F. Professor Newcomb presented a report on the different types of drug mills being used in the country and accepted an assignment for the making of a survey relative to the drug milling and sifting machinery.

Dean Wulling of Minneapolis emphasized the need for coördinating efforts between different research workers and for active coöperation with state pharmaceutical associations. Following Dean Wulling's address Professor Day moved that the Seminar recommend to state pharmaceutical associations the consideration of problems on the conservation of medicinal plants in connection with forest preservation and that these associations be urged to appoint committees to coöperate with state universities, colleges, other interested institutions and proper state and county officials. It was further moved that the secretary of the Seminar be directed to communicate with the state pharmaceutical associations urging these organizations to support research work including surveys of native medicinal plants.

Educational problems were discussed by Professor Canis who emphasized the need for closer agreement relative to the kind and character of botanical teaching in the different colleges of pharmacy. It was decided to devote one session at the 1925 meeting to a discussion on methods of teaching Botany, Pharmacognosy and Materia Medica.

Dr. W. O. Emery of the Bureau of Chemistry discussed some of the control problems with particular reference to the examination of tablets and triturates. Dr. Munch outlined the work being done by the Bureau of Chemistry on the control of uniformity and therapeutic action of biological products. The Seminar agreed that while interstate enforcement of drug laws was fairly efficient, a large amount of work should be done in the enforcement of laws within the respective states. Practically every state in the union has a Food and Drugs Act, and while the enforcement of the food part is frequently efficient, the enforcement of the laws relating to drug standards within the state is for the most part inadequate.

A demonstration was made by Dr. Viehoever on the work by Sievers and others on plant insecticides. Here again a number of recent research results of immediate value to pharmacists were brought out and explained. Dr. G. L. Keenan of the Bureau of Chemistry presented a paper on "Methods and Procedures Helpful in Plant Analysis." Dr. Viehoever demonstrated new apparatus for the detection quantitatively of foreign inorganic matter in vegetable drugs. He displayed samples of new spices, drugs and economic products including Chinese Cardamom, the fibre of Skunk Cabbage and the silicified tissue of Equisetum, the latter products being used in upholstering work.

The work of the Bureau of Chemistry with respect to the enforcement of labeling provisions for drugs and medicines was discussed by Dr. Munch. Particular attention was given to the labeling of biological products and to the question of presence or absence of vitamins in various foods and drugs. The group went on record as favoring biological assay methods for medicinal preparations which could not be satisfactorily standardized by chemical processes.

Specimens were exhibited by J. F. Clevenger of the Bureau of Chemistry of the different products being offered for "Cactus Grandiflorus N. F." The scope of an investigation under way by the Bureau of Chemistry to determine what plants of cactus should be recognized and whether or not any have real medicinal value was outlined.

Dr. Emery discussed his latest research work with vitamins and described his success in obtaining crystalline picrate derivatives of certain vitamin fractions. Dr. Emery also gave a report on his work with the growing of hybrids of orchids and announced a new form which had been produced. Work on the production and study of *Podophyllum Emodi* was outlined by Professor Newcomb.

Professor Morgan directed a botanical excursion through the medicinal plant garden of the Buffalo College of Pharmacy. He also demonstrated the flora in the vicinity of Buffalo.

This brief outline of the more important features of the Buffalo meeting gives some idea of the tremendously interesting nature of the work being conducted by the Seminar. The officers have purposely arranged the 1925 meeting for the week preceding the meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, which will be held in Des Moines, Iowa. It is hoped that a large number interested in the field of work covered by the Seminar will immediately advise Chairman E. L. Newcomb, College of Pharmacy, University of Minnesota, of their intention to attend the Seminar to be held in Minneapolis the week of August 17th.